

What is claimed is:

1. A method for modulating lipid metabolism in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
 - 5 (a) a hedgehog antagonist; and
 - (b) a hedgehog agonist.
2. A method of modulating vacuole formation in intestinal epithelial cells in an animal comprising the step of administering to the cell a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
 - 10 (a) a hedgehog antagonist; and
 - (b) a hedgehog agonist.
- 15 3. A method for modulating the accumulation of fat in intestinal epithelial cells in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
 - (a) a hedgehog antagonist; and
 - (b) a hedgehog agonist.
- 20 4. A method of treating a cholesterol disorder in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
 - (a) a hedgehog antagonist; and
 - (b) a hedgehog agonist.
- 25 5. A method of treating a lipid metabolism disorder in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
 - (a) a hedgehog antagonist; and
 - (b) a hedgehog agonist.

6. The method according to claim 5, wherein the lipid metabolism disorder is selected from the group consisting of:

- 5 (a) a lipid storage disorder;
- (b) a lipid transport disorder;
- (c) an apolipoprotein disorder;
- (d) a triglyceride disorder;
- (e) diet-induced hypercholesterolemia;
- 10 (f) hypercholesterolemia;
- (g) abetalipoproteinemia;
- (h) hypobetalipoproteinemia;
- (i) a chylomicron-rention disorder;
- (j) Anderson's disease;
- 15 (k) a fat absorption disorder;
- (l) normotriglyceridemic abetalipoproteinemia;
- (m) an apo-B 100 deficiency;
- (n) a fat soluble vitamin disorder; and
- (o) Atherosclerosis.

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7. The method according to claim 6, wherein the fat absorption disorder is obesity.

8. The method according to claim 6, wherein the fat absorption disorder is associated with weight loss.

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9. The method according to claim 6, wherein the fat soluble vitamin is vitamin A.

10. The method according to claim 6, wherein the fat soluble vitamin is vitamin E.

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11. The method according to claim 6, wherein the triglyceride disorder is selected from the group consisting of:
 - (a) a triglyceride metabolism disorder;
 - (b) a triglyceride transport disorder; and
 - (c) a triglyceride storage disorder.
12. The method according to any one of claims 1-11, wherein the hedgehog antagonist binds to the hedgehog receptor, but does not elicit a response, and is selected from the group consisting of:
 - (a) a hedgehog mimetic, or an active fragment thereof;
 - (b) a modified hedgehog protein, or an active fragment thereof; and
 - (c) an anti-hedgehog homolog.
13. The method of claim 12, wherein the anti-hedgehog homolog is selected from the group consisting of:
 - (a) a human antibody or an active fragment thereof;
 - (b) a chimeric antibody or an active fragment thereof; and
 - (c) a humanized antibody or an active fragment thereof.
14. The method according to any one of claims 1-11, wherein the hedgehog antagonist is an inactive hedgehog variant that binds to a hedgehog receptor but does not elicit a hedgehog-mediated signaling.
15. The method according to any one of claims 1-11, wherein the animal is a mammal.
16. The method according to claim 15, wherein the mammal is a human.